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AN OVERVIEW OF TRANSPORT STRATEGIES IN MALAYSIA

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Abstract: Many policies have been implemented on piecemeal approach over many years, further obscuring the cause effect relationship between policy and economic impact. As such it makes it extremely difficult to ascertain the extent of energy saving in implementing the formulated urban traffic plans. This paper examines ways and strategies to conserve energy with regard to transport planning.

Key word: Energy saving, urban traffic

1.0 Introduction

Town and Country Planning Act of 1976 was adopted in Malaysia would regularize the practice, administration and implementation of town and country planning in Peninsular Malaysia. Though the Act brings into focus a wide range of provisions, the focus has been so far on preparation of the Development Plans i.e. the structure plans and local plans. Structure plan actually represents the strategic component in the form of policy statement of the local authorities which indicate the desired direction and form of growth over 20 – 25 year period. As a result series of Structure Plan studies, were and are carried out revealing a number of issues. These include increasing population in urban areas, increasing demand for employment, housing and travel. Generally structure plans indicate the increase in average household income which reflect the general increase in the affluence of the urban population. The change in recreational patterns, the change in shopping characteristics and the needs for different land uses would certainly influence the travel pattern. This requires greater attention in providing efficient, reliable and cheap means of transportation system in Malaysian urban communities.

Local plan, a more detailed in character and prepared within the framework of the structure plan, is to ensure the implementation of the development control as required by the respective local authority. Although it is meant for shorter period and for a relatively smaller area, similar studies have to be carried out. As in the case of Structure Plans, analysis on traffic and transportation as well as related activities have to be ascertained in order to help generate quality urban travel.

2.0 Urban And Traffic Characteristics In Perspective

Several goals have generally formulated to form as a basis in generating transport plans and policies. Efficiency, quality and equity are some of the generalized transport goals but different cities and towns require different policies and strategies depending on the characteristics and size of a particular town. In this growing nation where society is becoming more affluent, the increase in ownership in private transport has always been on the high side.

Even in Kuala Lumpur the number of persons per vehicle has decreased which support the contention that there is an increase in the number and the use of private transport. Similar characteristics also exist in other cities and towns such as Georgetown, Alor Setar, Johor Bahru, Malacca ect. This is supported by the fact that great majority of travel were by private vehicles due to a relatively high car ownership. A high degree of congestion together with frequent delays not only

affects the expected profit margin of private bus operators but further contribute towards ineffectiveness of the transport policies postulated. If this remains unchanged, the cities will not be able to cope with the demand for travel.

Rapid evolution in transport has hastened the pace of change in the city. The increase in car ownership as well as increasing competition for its usage leads to increasing conflicts in interests for road users that is pedestrians versus the motorists. The crucial issue that arises is that whose interests should a transport planner or urban designer cater for?

In Malaysia, the number of road accidents annually is among the highest in the world involving 123,351 cases in 1987 from 39,056 in 1974. The death resulting from road accidents were 24,581 from 1974 66,066 in 1987. Alongside with these alarming facts is the increasing number of vehicles. Between 1970 and 1987, the number of vehicles in Peninsular Malaysia increased by about 12.9% per annum from 670,000 in 1970 to 3,253,233 in 1983 and 4,116,527 in 1987. The number continues to increase by the year 2010 and 2015.

These arises the urgent need to redress the situation by improving road safety and a call for segregation of pedestrian and vehicular traffic particularly in urban areas. The switch from public transport to private transport by the public can be attributed to the improving socio economic position of people. However, this does not absolve the poor quality of the public transport system from its responsibility in contributing to the switch. Higher car ownership ratio in Malaysian towns also gives an indication of the changing mode. Other important feature that revealed in many transport studies as well as structure plan, was the movement of vehicular and passenger traffic continued to be more intense towards the central areas or central business districts (CBD's). Although this phenomenon is less revealing in smaller towns, a high volume of vehicular and passenger traffic was recorded along the major routes linking the town centres. Higher concentration of traffic which frequently leads to the traffic congestion is also a common feature but varies from town to towns in terms of severity. Congestion in the CBD's as well as along the major routes, particularly during peak hours also give rise to:

Increase in travel time conflicts and causing problems in term of management and administration.

Thus travelling in the CBD's is becoming more inconvenient although private transport appeared to be relatively efficient in terms of speed (compare to public transport).

3.0 Economic Form Of Transport Plans Related To Energy Saving

Several attempts have been made to draw up plans for urban transport improvement in Malaysia. In Kuala Lumpur for instance, the city authority through its structure plan unit formulated several broad policies including:

- Decentralized urban activities in terms of New Towns
  And Urban Development
- Restraining private car usage in the CBD
- Public transport improvement
- New form of public transport
- Traffic management
- Area Traffic Control

Similar approaches were formulated and implemented in Georgetown, Penang but the strategies of different in character are implemented in the different ways. Other towns such as Seremban, Alor Setar, Malacca etc have also adopted policy of discouraging the use of private vehicle in the central urban areas but with different strategies. Other Malaysian cities except Johor Bahru have no plans to introduce Rapid Transit as energy saving alternative mode of public transport to accommodate future demand for travel.

3.1 New Town Concept, Urban Development and Integration with Transport Network

The notion of new towns which started during the 1930's inspired to a large extent by the experience of the Garden City Movement and prompted by the Town and Country Planning Association. The most

notable achievement of new town movement is the way in which it has attempted to reconcile the seemingly endless conflict of pedestrian and the motor car.

Cities within the city concept has many advantages to offer. This concept based on the principle of the decentralization of urban activities away from the existing city center helps to ease urban traffic and other urban problems. Kuala Lumpur city authority has indirectly adopted this principle as one of the strategies to reduce urban problems including traffic and transportation system.

In many places particularly in European countries, the layout of new towns were designed to segregate the various types of traffic and in relation to this is the adoption of a hierarchy of road system, clear cut groupings of land uses. In many town design, it is generally found that with lower density structures, walking becomes a less important design element and a more by product of estate layout with subsequent increase in the importance of public transport. New towns including newly planned housing estates have layouts designed to segregate pedestrians and vehicular traffic. Local centres were delineated based on walking distance of 8 – 16 minutes. There is a separate system of pedestrian walkways and cycles path. Major vehicular traffic routes circumscribe the plan. A distinct hierarchy of road system is seen with the diversion of the expressway away from the centre of the new town, whereby diverting through traffic.

Knowing the principles of traffic and transport would be an advantage in designing an urban area incorporating element of pedestrian network in the light of the objective of this paper. The new town concepts in separating vehicular traffic and pedestrian should be promoted wherever possible. In fact transport should form part of an overall integrated approach to town layout and design.

It was realized that the urban problems in KL not only confined to traffic but extended to issues pertaining to population growth, increasing needs for housing, employment, recreation and related activities. The transport studies with the objective of providing maximum mobility for people and goods, providing cheap, reliable and comfortable public transport system, aiming to incorporate land use and other socio economic activities in formulating new transport policies. It is desirable if the city authority particularly when drawing up a route network, to take into account of high density development and high density residential areas as these areas really need full penetration by the transport system as it helps reduce conflict between vehicular traffic and the non-vehicular traffic. There is one area in which opportunities to coordinate have been overlooked by many local authorities particularly in the implementation stage.

There are a number of urban forms that can be considered in the planning urban communities integrated with transport network in line with the objective of optimizing travel quality and efficiency. However, these ideas and concepts have to be adapted to suit a particular local environment.

3.2 Pedestrians Concept

Emphasis on segregating traffic with pedestrians in Malaysian urban communities is gaining fast recognition particularly since mid-1980's. Segregation may involve various extremes which ranges from the application or techniques to restrict the frequency of pedestrians and vehicular traffic conflicts by the imposition on the entry of motor vehicles. Such pedestrianized precincts are areas exclusively meant for the pedestrians. There is always the limitation as to how far such schemes can be implemented especially when provision has to be made for the diversion through and circulating traffic but often the main problems are those of access i.e access for servicing vehicles, for employees, for delivery goods, for shoppers whether coming by bus or car for the residents where there are and for business and private callers.

Conventional methods of segregation by time, horizontal and vertical means are exemplified in many areas and towns in Malaysia. Such examples include zebra crossing, overhead bridges etc. Fully

pedestrianized malls or precincts have yet to be implemented here except for the closure of certain streets for hawkering purposes. However, some streets have its pavement widened and improved in terms of design and landscape for the convenience of the pedestrians. These newly improved places are linked to strategic places with crossing facilities in an attempt to separate pedestrians with traffic, besides enhancing environmental quality of a particular urban area.

Pedestrians schemes, permanent in nature should be adopted for busy shopping areas such as Champbell Street in Penang, Petaling Street in Kuala Lumpur, though there may be a stiff resentment initially from the shop owners. However, Petaling Jaya Municipal Council has implemented new concept of shopping cum employment complex dominated by pedestrian pecincts in the Petaling Jaya's Town Centre, thereby reorganized the flow of traffic in the desired manner contributing towards safe environment for pedestrians, shoppers and many others. To enhance the implementation of this energy saving concept accessibility and sitting of strategic bus stops or stations, taxi facilities, proper landscaping and attractive design should be considered. For our tropical climate, there should be more consideration for landscaping and converways that protect the pedestrian from all inclement weather the hot, burning sun or even the sudden torrential rain.

The current practice in many towns such as Alor Setar, Seremban, Petaling Jaya, Georgetown, Malacca, Johor Bahru and Kuala Lumpur to extend its road pavement to make way for pedestrians and to carry out better landscaping is a sign of recognition of the importance of these elements in enhancing movement in the city, even though much more has to be done. Nearly all the measures implemented would result in fuel savings. Those measures promote the use of more energy efficient modes (public transport, carpool) and those that make more efficient use of existing modes (traffic flow improvement). Though, no before/ after assessments of fuel savings were made, it has been generally recognized the importance of energy saving be it in the form of Traffic Management Plan or Public Transport Programmes.

3.3 Policy Of Restraining Traffic As Energy Saving

The policy of restraining private vehicle and encouraging the use of public transport in Malaysian towny centres was reinforced. The intention to restrain car entry into the city centre, which was adopted as the major policy in many developed countries, was formulated to curb an increase in urban transport problems.

Experience in many cities supports the contention that greater intervention in planning and management brings about an improved public transport system. Greater accessibility of bus services were and are planned in Kuala Lumpur and in the new growth centres. This approach of planning was considered extremely necessary as many housing estates and suburban developments built during the past 50 to 60 years are difficult and uneconomic to be served by public transport either because the road network is not suitable for bus operation or because the road network's relation to the development is poor. Meanwhile measures restraining urban traffic in the CBD (in terms of higher parking charges, pedestrians network and traffic management) were adopted. Intervention in these aspects of transport was considered necessary due to the continuing increase in traffic, causing further congestion, delay and inaccessibility. This approach of planning and intervention if properly planned and designed, will help bring about optimum integration between transport and urban development, including enhancing energy saving in terms of operation, minimizes travelling time and costs. The common methods used in Malaysian cities are:

Traffic Management in terms of:

- Parking
- Pedestrians
- Channelization
- Traffic Signal
- Road Improvement
- Traffic Circulations

Parking (restricted in numbers and places) Including higher charges

3.4 New Mode Of Public Transport

Not all Malaysian towns are ready to accommodate Rapid Transit system. However, an analysis of the present and future road network within the KL's CBD shows that it will be unable to cope with the demand placed on it. These issues together with the continued rise in private vehicle as well as the unexpectedly high growth of employment within and around the CBD necessitate the planning for LRT in KL, to be powered by overhead electric line with coaches running on rails. The adoption of the LRT was made as an attempt to avoid further investment in road construction besides optimizing the advantages of its ability of carrying a relatively large number of passengers at one time.

The question of physical integration was dealt with in the planning for LRT. It was realized that the LRT cannot services the entire transportation needs, but must be integrated with other system such as stage buses, mini buses and taxis. In the light of the integrated concept, parking facilities were planned at the proposed LRT stations for the use of commuters, whereas for buses and taxis, loading and unloading facilities were also planned and incorporated in the LRT. Integrating the LRT with existing transportation network is necessary in order to ensure the success of the project.

Despite the emphasis given to the planning LRT, it was not intended to cover all residential areas, because the costs of development would be extremely high and beyond the reach of the authority and would certainly influence the fare structure. High fares would affect the less privileged low income travelers, particularly those who rely greatly on a low fare public transport system. So as to bring justice and ensuring equality, extensive residential areas (existing and newly planned or extend areas) are planned to be served by the existing bus system which will act as a feeder service to the proposed LRT.

However, Kuala Lumpur City Authority has many other options such as Aerobus and Monorail to be considered as an alternative mode of economical form of public transport. In Georgetown, Penang the study by the local authority does not indicate the viability of introducing any form of LRT. However, Mitsubishi has shown otherwise and proposed LRT by the year 2000. This idea was put up as an attempt to help reduce congestion, traffic conflict besides taking advantage of its capability of carrying a relatively large numbers of passengers at a time. In view of such advantages, Johor Bahru City Authority has drawned up plan to introduce LRT by the year 2017, linking Johor Bahru town centre with the heavily populated and intense development areas.The plan is in the preliminary stage. Other cities and towns such as Georgetown, Alor Setar, Kota bahru, Kota Kinabalu should start planning for LRT as well taking into account of energy saving.

3.5 Area Traffic Control (Atc) – Alternative Form Of Energy Saving

The adoption of this strategy as part of the traffic management was due to the fact that Kuala Lumpur and Georgetown have been experiencing traffic problems including congestion, delay and conflict not only along the major roads but at various intersections as well. The very nature of road network in Georgetown for instance, inherited from the colonial administration coupled with the lack of planning in the early period, is partly responsible for the present chaotic traffic movement. As part of traffic management strategy, ATC was adopted. In fact, the use of ATC is part and parcel of an overall transport policy and it is also used as a complementary measure so that a substantial amount of traffic problems in the CBD, particularly at the intersections are reduced. The adoption and implementation of this approach will help to reduce travel and delay time, travel cost and fuel consumption, congestion, accidents, pollution besides controlling and monitoring speed.

Its ability to collect vast amount of traffic data for immediate and future use in planning and decision making with regard to traffic system is another benefit accrued from implementing this technique. Within short span of period its success is beginning to convince other local authorities in Malaysia to examine the potential use of the ATC in their respective areas.

3.6 Conservation Policy

Conservation policy is another strategy that contributes towards energy saving and avoid destruction as well as high cost of development. This strategy has been implemented in Malacca and some other places. In Malacca, an area within the city centre with buildings of different design and culture inherited from mainland china, has been conserved because of its architectural and historical interest. The community existed for the past 100 years are characterized with narrow and ununiformed roads ranging from 8 – 12 feet and almost all buildings (residential / commercial / religious) are without setbacks. The other major reason for conserving the area is to avoid the vibration from heavy commercial vehicles from causing destructive effects on the buildings within this area. So the heavy vehicles are prohibited from using the main road within the area. To ensure that this policy is successfully implemented, the existing roads are also prohibited from being expanded or widened.

4.0 Concluding Remarks

In general environmental improvements occurred where and when traffic was reduced. Many of the integrated transport policies are too new and the monitoring period too short to obtain adequate information. Also, many policies have been implemented piecemeal over many years, further obscuring the cause effect relationship between policy and economic impact. As such it makes it extremely difficult to ascertain the extent of energy saving in implementing the formulated urban traffic plans.

Since no regular measurement have been made of environmental factors such as noise and pollution, it is not possible to identify any environmental effects of parking controls to date, but it is unlikely that there has been any significant improvement generally, since the traffic flows have only been marginally affected. However, there has been a significant improvement in the street scene as a result of the reduction in on street parking and where parking has been removed completely it has been possible to widen pavements and remove the clutter of parking meter. It has been generally regarded that carbon monoxide (CO) is almost wholly emitted by autos. Decreases in CO concentrations can be largely attributed to the transport policies. However, a comprehensive study on this aspect of environment needs to be carried in order to help reformulate effective urban transport policies in the light of maintaining quality urban travel.

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